

09/471820

C7C

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENTEE(S) : Kyung-Hwan Kim; Dong-Sik Han  
PATENT NO. : US 6,891,947 B1  
ISSUED : May 10, 2005  
FOR : MULTIFUNCTIONAL ANALOG TRUNK CIRCUIT

Certificate of Mailing Under 37 CFR 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA. 22313 on May 17, 2005.

Steve Cha, Reg. No. 44,069  
(Name of Registered Rep.)

(Signature and Date)

REQUEST FOR CERTIFICATE OF CORRECTION  
UNDER 37 CFR 1.323

**Attention Certificate of Corrections Branch**  
Commissioner For Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Certificate**  
**MAY 24 2005**  
**of Correction**

Dear Sir:

In accordance with the provisions of 37 CFR 1.323, the Patent and Trademark Office is respectfully requested to issue a Certificate of Correction in the above-identified Patent to correct an error in the Foreign Application Priority Number on the face of the Patent (Item 30). The Foreign Application Priority Number should read

-- 98-57859 --

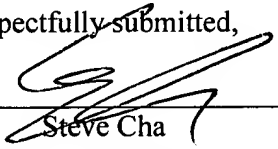
as shown on the Filing Receipt and the Cover Sheet Claiming Priority, the copies are enclosed.

MAY 24 2005

As these mistakes were the fault of the Patent and Trademark Office, it is believed to be in order for the Patent and Trademark Office to issue a Certificate of Correction and to place such Certificate in the file, so that such will appear on any copies of the Patent which are ordered in the future. Moreover, since these mistakes are that of the Patent and Trademark Office, such should be done without charge.

Two (2) copies of Form PTO/SB/44 embodying the requested correction accompany this letter. Return of one copy of the Form duly certified is requested.

Respectfully submitted,

  
By: Steve Cha  
Attorney for Applicant  
Registration No. 44,069

Date: May 17, 2005

Enclosure: Certificate of Correction – Form 1050  
Filing Receipt  
Cover Sheet Claiming Priority

**Mail all correspondence to:**  
Steve S. Cha, Reg. No. 44,069  
CHA & REITER, LLC  
210 Route 4 East, Suite #103  
Paramus, NJ 07652  
Telephone: 201-226-9245  
Fax: 201-226-9246

MAY 24 2005

**UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION**

PATENT NO. : 6,891,947 B2

DATED : May 10, 2005

INVENTOR(S) : Kyung-Hwan Kim and Dong-Sik Han

It is certified that error appears in the above-identified patent and that said Letters Patent  
is hereby corrected as shown below:

Title Page,

Item [30], the patent's foreign application priority number should be corrected to:

--98-57859

MAILING ADDRESS OF SENDER:

CHA & REITER, LLC  
210 Route 4 East, Suite #103  
Paramus, NJ 07652

PATENT NO. 6,891,947 B1

No. of additional copies



This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

MAY 24 2005

**UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION**

PATENT NO. : 6,891,947 B2

DATED : May 10, 2005

INVENTOR(S) : Kyung-Hwan Kim and Dong-Sik Han

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PATENT NO. 6,891,947 B1

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*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

MAY 24 2005



US006891947B1

(12) **United States Patent**  
**Kim et al.**

(10) **Patent No.:** **US 6,891,947 B1**  
(45) **Date of Patent:** **May 10, 2005**

(54) **MULTIFUNCTIONAL ANALOG TRUNK  
CIRCUIT**

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

(75) **Inventors:** **Kyung-Hwan Kim**, Suwon-shi (KR);  
**Dong-Sik Han**, Yongin-shi (KR)

4,756,018 A \* 7/1988 Fujiwara ..... 455/560

(73) **Assignee:** **Samsung Electronics Co., Ltd.**,  
Suwon-si (KR)

\* cited by examiner

(\*) **Notice:** Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 0 days.

**Primary Examiner**—Forester W. Isen

**Assistant Examiner**—Jefferey Harold

(74) **Attorney, Agent, or Firm**—Cha & Reiter, L.L.C.

(57) **ABSTRACT**

A multifunctional analog TRK circuit board is designed so as to serve as both loop, ground start, DID, E&M, ring down and both way TRK. Thus, the various analog TRK circuits are embodied in a single TRK board, thereby increasing productivity compared to the conventional system requiring separate TRK circuit boards. The multifunctional TRK circuit is selectively controlled to provide desired TRK functions.

**8 Claims, 17 Drawing Sheets**

(21) **Appl. No.:** **09/471,820**

(22) **Filed:** **Dec. 23, 1999**

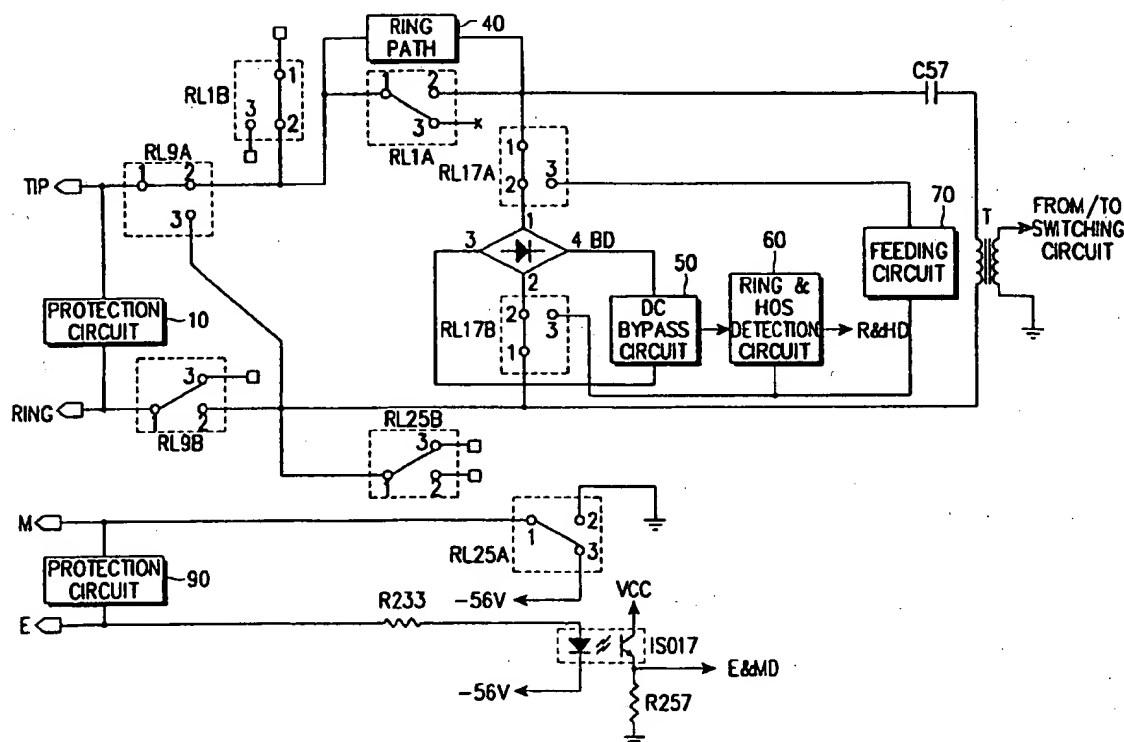
(30) **Foreign Application Priority Data**

Dec. 23, 1998 (KR) ..... [98-57859]

(51) **Int. Cl.** <sup>7</sup> ..... **H04M 3/00**

(52) **U.S. Cl.** ..... **379/333; 379/334**

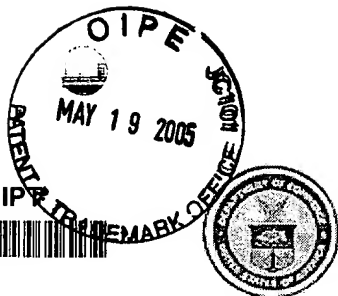
(58) **Field of Search** ..... **379/333, 334,**  
**379/219, 220.01; 374/242; 370/351**



## CORRECTED FILING RECEIPT



\*OC00000005009874\*

UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark OfficeAddress: ASSISTANT SECRETARY AND  
COMMISSIONER OF PATENT AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/471,820	12/23/1999	2743	760	P992040	17	8	3

STEVE S CHA ESQ  
67 WALL STREET #2411  
NEW YORK, NY 100053198

Date Mailed: 03/27/2000

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the PTO processes the reply to the Notice, the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

## Applicant(s)

KYUNG-HWAN KIM, SUWON-SHI, KOREA, REPUBLIC OF;  
DONG-SIK HAN, YONGIN-SHI, KOREA, REPUBLIC OF;

## Continuing Data as Claimed by Applicant

## Foreign Applications

REPUBLIC OF KOREA 1998-57859 12/23/1998

If Required, Foreign Filing License Granted 02/04/2000

## Title

MULTIFUNCTIONAL ANALOG TRUNK CIRCUIT

## Preliminary Class

379

Data entry by : JAY, MARION

Team : OIPE

Date: 03/27/2000





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Title 37, Code of Federal Regulations, 5.11 & 5.15**

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- The articles such as "a," "an" and "the" are not included as the first words in the title of an application. They are considered to be unnecessary to the understanding of the title.
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- The title may be truncated if it consists of more than 600 characters (letters and spaces combined).
- The docket number allows a maximum of 25 characters.
- If your application was submitted under 37 CFR 1.10, your filing date should be the "date in" found on the Express Mail label. If there is a discrepancy, you should submit a request for a corrected Filing Receipt along with a copy of the Express Mail label showing the "date in."

Any corrections that may need to be done to your Filing Receipt should be directed to:

Assistant Commissioner for Patents  
Office of Initial Patent Examination  
Customer Service Center  
Washington, DC 20231



Attorney Docket No. P992040

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Kyung-Hwan Kim, Dong-Sik Han

Serial No: *Not yet assigned.* Examiner: *Not yet assigned.*

Filed: December 23, 1999 Group: *Not yet assigned.*

For: MULTIFUNCTIONAL ANALOG TRUNK CIRCUIT

**CLAIM OF PRIORITY**  
**UNDER 35 U.S.C. § 119**

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

Attached please find the certified copy of the foreign application from which priority is claimed for the above-identified application.

Country: Republic of Korea  
Foreign Application No.: 1998-57859  
Foreign Filing Date: December 23, 1998

Respectfully submitted,

Steve S. Cha  
Attorney for the Applicant  
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Date: December 23, 1999